**Goal 9 Day 5**

Factor Trinomial (Leading coefficient of 1)

We will first look at trinomials that have a coefficient of 1

We will look at the signs first.

We want to answer the question what can we multiply together to get the last term and add to get the middle term.

In this case the last term is positive so signs are the same, middle term is positive so both signs are positive

What are the factors of 16?

+1 and +16 +2 and +8 +4 and +4

These all have a product of 16, now what are their sums?

+17 +10 +8

Our middle term is +10x, so the factors we will use are +2x and +8x.

Set up Factor by Grouping

You try one

Whats different now?

Lets try a variation;

Now our last term is negative which means signs are opposites (one +, one -), and the larger factor takes the sign of the middle term.

First find the factors of -35

-1 and +35 -5 and +7

Now look at their sums +34 +2

So our factors will be -5 and +7.

Set up Factor by Grouping

You try one;

Here is another variation

Third term negative means opposite signs

Middle term negative means larger factor is negative

Factors +1 and -45 +3 and -15 +5 and -9

Sums -44 -12 -4

Factor by Grouping

You try